WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
DROUGHT RESPONSE PLAN

May 16, 2005

Drought Response Plan Summary

Background

The warm winter of 2004-05 experienced low snowfall and resultant low snow pack levels in the mountains. On March 10, Governor Gregoire issued a statewide Drought Emergency (see Attachment A). Some areas are already facing water restrictions and more will as the season goes on. All state agencies have been requested to reduce water consumption. Although mountain snowfall has increased in late March and April, water shortages, particularly in the Columbia River Basin, are still anticipated for the upcoming summer and early fall seasons.

This plan was prepared in response to the declared drought emergency.

Policy Statement

In response to these anticipated water shortages, WSDOT will actively conserve the use of water throughout the state on construction projects as well as in the maintenance and operation of the transportation infrastructure and associated WSDOT facilities. Implementation of the following actions will minimize water use, meet all anticipated local water use restrictions, and yet preserve the public investment in environmental mitigation and landscaping on our highways and facilities.

Statewide Policy Actions for Drought Response

The following actions comprise the core elements of WSDOT's drought response plan and are to be followed unless specific approvals for alternate actions are provided by the Assistant Regional Administrator for either Maintenance and Operations or Construction, whichever is applicable.

1. Lawn/turf areas will not be watered except for minimal, selected areas in rest areas and other WSDOT buildings, e.g., in the immediate vicinity of buildings where heavy foot traffic mandates irrigation for turf survival.
2. The grass in lawn/turf areas will not be mowed at a height lower than two inches.
3. Planting contracts will be deferred until Fall where possible.
4. In instances where planting contracts cannot be deferred until Fall, previously awarded planting contracts will be completed utilizing prudent management practices to minimize water use.
5. Existing ornamental plantings will be sustained with the minimum amount of watering in accordance with local water use restrictions.
6. Environmental mitigation and roadside planting sites will be watered with the minimum amount of water necessary to ensure plant survival.
7. Mulches will be applied in planting areas, where appropriate, to conserve water.
8. Spring fertilizing and pruning at rest areas and other WSDOT facilities will be minimized to limit plant growth and the associated water consumption.

9. Truck and vehicle washing will be minimized. This applies to both WSDOT vehicles as well as other agency vehicles that are washed at WSDOT facilities.
10. Highway shoulders will be swept only when necessary.
11. Vactor trucks will be used to clean stormwater catch basins only when absolutely necessary.
12. Cleaning culverts by flushing them with water will be conducted only when absolutely necessary.
13. Highway shoulders will be cleaned with water from flusher trucks only when absolutely necessary.
14. WSDOT personnel will work with highway construction contractors to implement a variety of water conservation measures on projects as appropriate.

Additional conservation measures can be implemented as appropriate. Several additional measures are identified in the Water Use and Conservation Assessment portion of this plan (below). Implementation of these conservation measures is projected to reduce WSDOT water consumption by 28 percent - from 339 million gallons in 2004 to 245 million gallons in 2005 - by focusing on high water-use activities. In many areas, WSDOT personnel will assess water conservation measures for long-term use and incorporate them into agency standard operating procedures as appropriate.

Regional Implementation Plans

WSDOT water conservation policy will be implemented primarily through program delivery activities conducted by regional personnel. As such, each WSDOT Region will develop a brief plan to identify how water consumption will be reduced for 2005. These plans should be no longer than two or three pages and focus on specific measures that will be used to implement statewide drought response policy. An example that was developed by a WSDOT Maintenance Area is shown in Attachment B. Regional plans should be consistent with applicable local water restriction policies and programs as much as possible. The regional plans should be completed and provided to WSDOT HQ-Maintenance by June 7, 2005.

Summer Wildfire Response

Dry conditions this summer could lead to a significant amount of wildfire activity. WSDOT is identifying equipment and other resources that may be needed to support firefighting efforts. Communication and coordination with other government agencies is taking place early this year so we are prepared when action is needed.

Water Conservation Communication

Information on water conservation measures will be widely distributed to WSDOT personnel so all affected will understand WSDOT drought response policy, regional plans, and agency commitments to save water. This will be accomplished through e-mail, Internet, distribution of written documents, and discussion among department employees. Employees will be made aware of specific conservation measures to be implemented as well as the importance of projecting the correct image so the public accurately perceives WSDOT as actively meeting our water conservation responsibilities. Informational materials will be provided to educate WSDOT employees on being “water smart” and using water wisely at home and on the job. Public communication opportunities such as at highway rest areas and Washington State Ferries will be utilized to get the word out about water conservation.

WSDOT Water Use and Conservation Assessment

A water use and conservation assessment has been completed as part of our agency response to 2005 water shortages (see below). This information should be used to help develop regional plans. Some WSDOT activities identified in the assessment that result in high levels of water usage are not targeted for water reduction. In these cases, the assessment includes a discussion of the reasoning for this.

Water Use and Conservation Assessment

A variety of WSDOT functional areas and activities have been examined for water use and water conservation opportunities. This information is being used to develop an agency response plan for anticipated water shortages in the summer/fall of 2005 as well as changes in standard, operating procedures for long-term water conservation. The following table identifies water use estimates for 2004 and projects water use for 2005 for activities where water use is significant. The "Process Water" category in the table includes water used for maintenance activities indicated below, mixing anti-icing chemicals for winter maintenance, and washing motor vehicles and equipment. Detailed descriptions of water use and conservation measures follow the table.

Water Use Activity	**2004 Use (in million of gallons)**	**2005 Projected Use (in millions of gallons)**
Maintenance		
Catch Basin Cleaning	*	*
Sweeping and Cleaning	*	*
Culvert Maintenance	*	*
Noxious/Nuisance Weeds	*	*
Rest Areas	57**	32**
Landscape Maintenance	89	53
Facilities		
Domestic	34	29
Grounds Maintenance	10	5
Process Water	56	45
Construction	60**	51**
Environmental Mitigation	6	5
Washington State Ferries	28**	25**
Total Water Use:	**339 million gallons**	**245 million gallons**
Projected 2005 Reduction		**94 million gallons (28% reduction)**

*Water use for this activity included in the "Process Water" category.

**Water use is for April through September.

To help put these water use numbers in context, a city of 7,000 citizens (same as number of WSDOT employees statewide) will use approximately 270 million gallons of water during the April-to-September period of heavy water use.

Management Support

Water conservation efforts require support of upper management. Some ways WSDOT management will demonstrate a commitment to water conservation are:

- Increase employee awareness of water conservation.
- Install signs encouraging water conservation in restrooms, lunchrooms, staff kitchens, vehicle wash facilities, and other areas where the staff and occupants use water.
- Emphasize the importance of water conservation at staff meetings.
- Encourage decisions that reflect water conservation in policies such as vehicle washing and landscape choices.
- Disseminate suggestions for water conservation to staff.
- Challenge staff to come up with additional ways to conserve water.
- Document monthly use from past utility bills to develop monthly use patterns of the "Base Year - 2004" for all facilities. Document quantities (gallons or cubic feet) not dollars, because rates change. Use this information to determine performance.
- Use Performance Contracting for installation of water saving measures for long-term conservation in larger facilities, with savings paying for the improvements.

Highway Maintenance

All activities that comprise Highway Maintenance have been evaluated for water use. Those activities with substantial water-use are evaluated for possible conservation action and are identified below.

Maintaining Catch Basins

Water use: Vactor trucks are used to clean sediment and debris from stormwater catch basins. Vactor trucks flush catch basins with water to loosen debris; the debris and water are then vacuumed out of the catch basin into a truck for transport to disposal sites. Estimated water use in 2004 was less than 100,000 gallons.

Action: Maintenance will continue conducting this activity on an as-needed basis. This activity should not be deferred in cases where it needs to be completed, as deferral will lead to system failure with impacts far outweighing minimal benefits of saved water. There are no alternative catch basin cleaning methods that use less or no water. The potential water savings gained from cutting back on this activity are not worth the adverse impacts from non-working catch basins.

Savings/Impacts: Minor

Sweeping and Cleaning

Water use: WSDOT uses water for sweeping road shoulders, bridge decks, and interchanges with sweeper trucks to keep dust levels down for motorist safety and compliance with air quality regulations. In some cases, water tank/flusher trucks are used to clean road shoulders by flushing debris away with water. Estimated water use in 2004 was less than 200,000 gallons.

Action: Maintenance will conduct sweeping and cleaning activities only when necessary. Shoulder flushing will be used only when other means of shoulder cleaning are not practical at a given location. Options for using recycled water for sweeping or flushing will be evaluated. Due to air quality requirements, mechanized sweeping equipment will be operated as designed to minimize dust.

Savings/Impacts: Water savings in 2005 for this activity is estimated to be minimal due to the relatively small amount of water that is normally used. Impacts to the Level of Service (LOS) are not anticipated to be severe. Minimal sand was applied around the state during the winter of 2004-05 so coming out of winter the paved shoulders do not have as much debris as normal. We expect that we can maintain an acceptable level of service for the public even with minimized shoulder sweeping and flushing activities.

Culvert Maintenance

Water Use: Routine maintenance of culverts includes removing sediment and debris that periodically accumulates inside of them. Oftentimes, this will be accomplished by flushing the culvert with water. Estimated water use in 2004 was less than 100,000 gallons.

Action: Cleaning culverts by flushing with water will be conducted only when absolutely necessary. If sediment/debris build-up is easily accessed by mechanical or manual cleaning methods, these methods will be utilized. This activity should not be deferred in cases where it needs to be completed, as deferral will lead to system failure with impacts far outweighing minimal benefits of saved water.

Savings/Impacts: Minor water savings: approximately 25,000 gallons.

Noxious Weed and Nuisance Vegetation Control

Water Use: In addition to other vegetation management methods in WSDOT's Integrated Vegetation Management (IVM) Program, herbicides are used to manage noxious weeds and nuisance vegetation on highway roadsides. Herbicides are mixed with water at varying concentrations for applications. Estimated water use in 2004 was 1.5 million gallons.

Action: After evaluation, it has been decided that the adverse impacts resulting from significant water reductions for this activity outweigh resulting water saving benefits. Changing concentration rates of applications to save water would require recalibration and re-education of employees. This has inherent risks, as the potential to over-apply increases. Since IVM is a long-term process focusing on continued enhance of desirable vegetation with consistent, selective control of undesirable plant species, a significant

disruption of these IVM plans and processes will set us back in meeting roadside vegetation goals. Herbicide use is gradually reduced as desirable vegetation becomes stronger and naturally out-competes non-desirable plants. If herbicide use is suddenly cut back beyond the capacity of desirable vegetation to out-compete, the noxious weeds and nuisance vegetation reclaim lost ground that we gained through the IVM process. This has been seen in the past from sudden herbicide use reductions resulting from program budget reductions and would be similar if the reason for sudden reductions were for water conservation purposes.

Savings/Impacts: Minor

Rest Areas

Water Use: A large amount of water is used in the operation of WSDOT rest areas. Two primary water uses are for grounds irrigation and restroom use. The vast majority of water use at rest areas occurs from April through September. Estimated water use for this time period in 2004 at all rest areas statewide was 57 million gallons. Approximately 30 million gallons was used for grounds irrigation and 27 million gallons for restroom use.

Action: WSDOT will significantly reduce the amount of water used to irrigate grounds at rest areas. Lawn/turf areas will generally be allowed to go dormant during summer/early fall by not watering. Lawn/turf areas in the immediate vicinity of rest area buildings will be irrigated to mitigate fire hazards (e.g., cigarettes). Trees, shrubs, and other planted areas will be sustained with the minimum amount of water needed to do so. In some cases due to irrigation system configurations, irrigation of trees and shrubs cannot be separated from irrigation of lawn/turf areas. Lawn/turf areas will receive the smaller amount of irrigation water needed to sustain trees and shrubs in these cases. Additionally, irrigation zones may be split. Sprinkler heads in general turf areas may need to be removed and capped until later conditions change and they can be reinstalled. No active measures will be taken to reduce water use in restrooms due to public health/sanitation reasons. WSDOT Landscape architects, horticulturalists, and grounds maintenance personnel can assess rest areas for water conservation opportunities. Some specific actions that can be taken at rest areas to help conserve water use include:

- Thatch and aerate lawns to allow moisture that falls, either from irrigation or precipitation, to enter the ground easier and deeper.
- Consider use of drip irrigation where practical for landscape areas
- Consider re-zoning existing irrigation loops to separate lawn from tree and shrub beds as they have different watering needs.
- Ensure that irrigation timers are functional, set for evening/night hours, and that the durations are appropriate.
- Remove turf from the base of trees/shrubs and mulch to reduce competition from grass for available soil water and to conserve soil moisture.
- Adjust irrigation systems for seasonal growth; reduce watering by 30 to 40 percent in the spring and fall when plants use less water.
- Mow grass at least two inches high on the westside and three inches high on the eastside to promote healthy root growth and shading of the soil surface.

Posters or signs about general water conservation may be posted at kiosks or reader boards at rest areas. Long-term water conservation measures such as low-volume water fixtures and automatic faucets will be evaluated.

Savings/Impacts: Estimated water savings from reduced grounds irrigation is 25 million gallons. Impacts will be only aesthetic in the form of brown lawn/turf areas. After a period of Summer/early Fall dormancy, lawn/turf areas will come back when fall rains rejuvenate them. If lawns at rest areas are allowed to dry out in mid to late Summer, any impacts to the level of service to the public will likely be minimal.

Landscape Maintenance

Water Use: In roadside/interchange areas that are formally landscaped, water use is for irrigation of shrubs, trees, flowers, and to a lesser extent, lawn/turf areas. The vast majority of water use at landscaped areas occurs from April through September. Estimated water use for this time period in 2004 at all landscaped areas statewide was 89 million gallons.

Action: Actions similar to those taken for grounds irrigation at rest areas will be implemented at landscaped areas. Gateway areas (i.e. specially landscaped interchange or roadside location that marks the entrance to a city) will be maintained to minimize adverse aesthetic impacts. Local watering restrictions for landscape areas will be followed as they are established.

Savings/Impacts: Water savings in 2005 from implementation of water conservation practices is estimated at 40 percent or 36 million gallons. Impacts are similar to those projected for rest areas. Lawn/turf areas will be allowed to go dormant and turn brown. Shrubs and trees will be sustained with a minimal amount of water.

Facilities

WSDOT facilities (buildings and associated grounds) such as area Maintenance offices, Project Engineering offices, and various administrative offices were evaluated for water use and possible conservation measures. Major water use areas and conservation measures related to facilities are identified below. Since each facility is unique, water conservation measures will be utilized at individual facilities as applicable. Prior to declaration of the drought emergency, several high-use facilities were retrofitted with water saving fixtures and water reuse systems. Retrofits and other conservation measures will continue to be accomplished in a prioritized manner to attain long-term water conservation. WSDOT will be designing and constructing new buildings within new high-performance green building requirements established in the 2005 legislative session.

Domestic Use

Water Use: Domestic or restroom use of water at WSDOT facilities primarily consists of the use of toilets, sinks, and showers. The estimated water use in 2004 at all WSDOT facilities statewide was 34 million gallons.

Action: The WSDOT HQ Facilities Office has developed the following list of Best Management Practices for domestic water conservation at WSDOT facilities. This list has been distributed to regional facilities management personnel for developing and implementing regional water conservation plans.

- Check water supply systems for leaks.
- Turn off any unnecessary flows.
- Repair or replace dripping faucets, showers, and continuously running or leaking toilets.
- Install faucet aerators where possible.
- Install water saving showerheads.
- Shut off air conditioning when not needed to reduce load.
- Reduce cooling demand by purging warm air out of buildings at night, and replacing with direct outside cooler air.
- Minimize the water use in cooling equipment in accordance with manufacturer recommendations. Shut off cooling units when not needed.
- Operate cooling towers at night to lower chilled water loop temperature in preparation for cooling during the heat of the day.
- Reduce toilet water by adjusting flush valves or installing dams and flapper mechanisms.
- As appliances or fixtures wear out, replace them with water-saving models.
- Shut off water supply to equipment rooms when not in use.
- Educate Employees - There are many opportunities for occupants to make a difference. Conserving water at work and at home can have a tremendous impact on water use in the region. Occupants can also help to identify problems early so that maintenance staff can correct them before large volumes of water are wasted.
    - Wash hands with only the water needed, and turn water off completely when finished. Use a reduced flow control if available.
    - Report leaks, running toilets and urinals, and other malfunctioning equipment to the maintenance staff.
    - Do not flush urinals or toilets before using, unless needed.
    - Report leaky irrigation systems or sprinklers that spill onto paved areas to the appropriate staff.
    - Use budgeted amounts of water when cleaning.
    - Use water wisely at home (see Home Water Conservation suggestions).

Savings/Impacts: Estimated water savings in 2005 is 15 percent or 5 million gallons.

Grounds Maintenance

Water Use: Lawn/turf areas, shrubs, trees, and flowerbeds at facilities are irrigated during summer and early fall to keep them healthy and aesthetically pleasing. The estimated water use in 2004 at all WSDOT facilities statewide was 10.2 million gallons.

Action: Lawn/turf areas will generally be allowed to go dormant during summer/early fall by cutting back on watering. Lawn/turf areas in the immediate vicinity of buildings

will be irrigated to mitigate fire hazards (e.g., cigarettes). Trees, shrubs, and other planted areas will be sustained with the minimum amount of water needed to do so.

The WSDOT HQ Facilities Office has developed the following list of Best Management Practices for maintaining facilities grounds during drought situations. This list has been distributed to region facilities management personnel for developing and implementing region water conservation plans.

- Inspect irrigation systems for leaks and sprinkler overspray, correcting any problems.
- Check the irrigation meter when everything is supposed to be off, and document the reading. Read the meter one hour later to see if it has changed to determine if there is water loss.
- Don't use water to wash driveways or sidewalks; use air blowers or brooms.
- Refrain from using decorative water displays.
- Water before 10:00 am or at sunset when the wind is calm.
- Remove thatch and aerate turf to encourage movement of water to the root zone.
- Minimize or eliminate fertilizing, which requires additional watering, and promotes new growth, which will also need additional watering.
- Promote deep root growth by watering 1 inch, twice per week.
- Add a moisture-sensing device to automated systems to water only when needed.
- Set lawn mower blades higher, and use a mulching mower to reduce evaporation and add nutrients to the lawn. Mow as infrequently as possible.
- Add mulches to gardens to reduce soil drying and to add nutrients.
- Plant water tolerant plants as appropriate, and plant in the fall.
- Refrain from planting annual flowering plants that have high water requirements.
- Contact local water utility to see if they provide grants and/or technical assistance to assist with water audits.
- Use reclaimed water for irrigation where available.
- Use soaker hoses and trickle irrigation systems for plants and shrubs.
- Reduce traffic on stressed turf areas if possible.

Savings/Impacts: Estimated water savings in 2005 is 50 percent reduction or 4 million gallons. Impacts are similar to those projected for rest areas. Lawn/turf areas will be allowed to go dormant and turn brown. Shrubs and trees will be sustained with a minimal amount of water.

Process Water

Water Use: There are a variety of activities that are included in this category such as mixing snow and ice control chemicals and mixing herbicides for roadside vegetation management. The primary emphasis for water savings in this category is on motor vehicle and equipment washing. WSDOT motor vehicles and equipment used for a wide variety of purposes are periodically washed at facilities statewide. Additionally, motor vehicles from other agencies such as the Washington State Patrol are washed at WSDOT facilities. Estimated Process Water use in 2004 was 56 million gallons.

Action: Motor vehicle and equipment washing will be reduced to the minimum amount needed. This will generally apply to trucks and cars that are washed solely for aesthetic purposes. Some maintenance vehicles and equipment must be washed to remove residual materials between operations. The aesthetic appearance of a clean vehicle in certain instances (e.g., WSDOT Incident Response Trucks, WSP patrol cars) is important and will be maintained as needed. Non-WSDOT agencies using WSDOT facilities to wash motor vehicles will be requested to limit their use accordingly.

The WSDOT HQ Facilities Office has developed the following list of Best Management Practices for motor vehicle/equipment washwater conservation. This list has been distributed to region facilities management personnel for developing and implementing region water conservation plans.

- Install high-pressure, low-volume nozzles on spray washers.
- Install in-line strainers on all spray headers; inspect nozzles regularly for clogging.
- Replace high-volume hoses with high-pressure, low-volume cleaning systems.
- As equipment wears out, replace with water-saving models.
- Equip hoses with spring loaded shutoff nozzles.

Savings/Impacts: Water savings for 2005 are estimated at 20 percent or 9 million gallons.

Construction

While state employees are directly responsible for water conservation in the conduct of maintenance and operations of highways and WSDOT facilities, private sector contractors fill this role for highway construction activities.

Water Use: During the summer highway construction season, water is used for compaction and dust control on projects where soil/earth is being graded. The estimated statewide water use during the summer 2004 construction season was 60 million gallons.

Action: The WSDOT HQ Construction Office has developed the following list of Best Management Practices for water conservation on highway construction projects. This information will be provided to construction contractors for implementation as appropriate:

- Post speed limits on haul routes - haul vehicles tend to drive faster getting to and from their pickup or dumpsite. This will reduce the need to apply water to control dust.
- Better stabilize haul roads and staging areas - use gravel, rock. Larger aggregates, or pave routes to cover finer material. This will reduce the need to apply water to control dust.
- Improve our application methods of water - water used specifically for dust prevention should be applied by sprinkling the water rather than spraying.

- Inspect soil moisture content often to minimize water application - apply water when needed not just periodically.
- Stabilize exposed soils with erosion control Best Management Practices right away - most erosion control Best Management Practices also help with dust control.
- Use chemical dust suppressants - will need to coordinate product review and get acceptances for usage, products have many claims but they could have environmental impact too.
- Cover stockpiles with wind impervious material - use cover methods instead of watering.
- For dust control, emphasize minimizing the amount of open ground; consider non-water alternatives such as dust palliatives, bonded fiber matrices, jute matting.
- For compaction, consider using line-testing water. Consider using reclaimed water (water from advanced wastewater treatment facilities that is suitable for re-use.
- Concrete curing -- consider using curing compounds vs. water cure.

Savings/Impacts: Since construction site and weather conditions are so variable, it is difficult to accurately estimate water savings. The best guess at savings from implementation of BMP's as appropriate is 15 percent or approximately 9 million gallons on WSDOT construction projects statewide.

Environmental Mitigation Sites

To mitigate unavoidable impacts from highway construction projects to wetland or riparian areas, WSDOT creates new wetlands or enhances existing wetlands/riparian areas.

Water Use: Plant establishment is a critical component of environmental mitigation sites meeting permit requirements. Until plants are established and self-sustaining, they need to be periodically watered. On most environmental mitigation sites, private sector contractors water for the first one to three years, depending upon the individual contract. With contractors conducting most of this watering, water consumption numbers are general estimates at best. Estimated water use in 2004 was six million gallons.

Action: Plants at environmental mitigation sites will be irrigated with the minimum amount of water needed to maintain them in a healthy condition. Water conservation Best Management Practices referenced earlier in this document will be deployed at environmental mitigation sites where practical and appropriate.

Savings/Impacts: Estimated savings of water is one million gallons.

Washington State Ferries

The water consumption at Washington State Ferries (WSF) is for restroom use on vessels and at terminals. The majority of water use is from April through September. The estimated

water consumption for this time period in 2004 was 28 million gallons. For public health and sanitation reasons, no cutbacks in restroom water use at WSF are planned for 2005. Through public and employee education and awareness, it is estimated that 3 million gallons of water will be saved at WSF in 2005. Through a variety of public education/information means, WSF will promote water conservation.

Wildfire Coordination

When wildfires take place near highways, WSDOT is often called on to support firefighting activities. Anticipating a busy wildfire season due to drought conditions, appropriate WSDOT personnel will carry out the following actions.

1. Work with Washington State Department of Natural Resources (DNR) to assure that cost reimbursement processes and expectations are understood by all before the wildfire season begins. This coordination will have to take place at the region level.
2. Determine how many tankers, bulldozers, and traffic control equipment we have available that could be utilized during a fire event and that we are ready to respond when needed.
3. Ensure that tanker trucks have appropriate fittings to work with DNR equipment
4. Evaluate which WSDOT facilities are most vulnerable to wildfires and determine how our equipment could be used to mitigate potential dangers.

Home Water Conservation

Kitchen

- When washing or pre-washing dishes by hand, don't let the water run unnecessarily. Fill one sink or large pan to use for wash water, and a second sink or pan for rinse water. Use the rinse water to water houseplants or bedding plants (after the water has cooled).
- Wash dishes and pans soon after eating so that food does not get a chance to dry on. If dried on, let dishes, pots and pants soak to loosen food before scrubbing.
- Fix leaky faucets, hose bibs, and toilets soon after the problem is detected.
- Use the garbage disposal less. Use composting for non-dairy and non-meat food wastes.
- Use the dishwasher and clothes washer only when full.
- Keep a pitcher of water in the refrigerator rather than running the water to get cooler water.

Bathroom

- Turn off the water while brushing your teeth or when shaving, and use it only for rinsing.
- Take shorter showers.

- Put a plastic bottle weighted with pebbles and water in the toilet water tank to reduce water used by the toilet. When replacing the toilet, get one that uses 1.6 gallons per flush.
- Use low-flow showerheads.
- Capture the wasted water when waiting for the shower to warm up. Use that water for watering houseplants and bedding plants, or as toilet water.

Landscaping

- Plant drought tolerant plants as appropriate, plant in the spring and fall.
- Check your sprinkler system to make sure it is only watering the lawn.
- Use "soaker" type hoses for bedding plants to eliminate water on leaves and reduce evaporation.
- Water lawns before 10:00 am or at sunset when the wind is calm.
- Do not use water to wash off driveways or sidewalks.
- Wash your car on the lawn or use a commercial car wash that uses recycled water.
- Set the lawn mower to a higher level, and mulch to reduce evaporation rates and retain moisture.
- Promote deep root growth by watering longer less frequently. For lawns, 1 inch twice per week should be adequate.
- To detect underground leaks, check the water meter when no water is being used and record the amount. Check it one hour later, making sure that there was no water used by anyone or any equipment in your home. If the meter consumption has gone up, you may have an underground leak. Contact your water company for assistance or advice.
- Check with your local water company for conservation incentives. Some will provide low-flow showerheads and even toilets for free.

Web Site Links

American Water Works
www.waterwiser.org

Arizona Water Conservation
www.wateruseitwisely.com

Seattle Public Utilities
www.seattle.gov/util/Services/Water/index.asp
www.seattle.gov/util/Services/Waster/Reduce_Water_Use/index.asp

WSDOT, HQ Roadside & Site Development
Information on getting shrubs, trees, and lawns through a drought
http://www.wsdot.wa.gov/eesc/design/roadside/

Attachment A

Drought Declaration by the Department of Ecology

Washington Department of Ecology - 2005 Drought.url

Attachment B.
Example Regional Plan

March 24, 2005

TO: All Area 2 Personnel

FROM: Ted Dempsey
NWR. NB-82. MS 42

SUBJECT: Maintenance Area 2 Water Conservation Practices

In preparation for the forecasted severe water shortage the Department of Transportation needs to support the Washington State plan to reduce water usage to the lowest possible level. It is our intent to do this while continuing to meet our service level commitments. Effective immediately the following conservation practices shall be adhered to by all Area 2 personnel and those who have duty stations within Area 2 facilities.

General Conservation Measures
In order to be successful in this effort all of us will have to do our part. When washing hands do not let the water run continually. All hoses will need to be equipped with a shut off at the nozzle. If you know of a hose that needs to have a shut-off, please bring it to the attention of your supervisor. Leaks are tremendous source of waste; any known leaks should be reported to your supervisor immediately so they can be addressed.

Irrigation
We will not be using water for irrigation except the minimum required to keep shrubs and trees alive. As far as the turf goes, brown will be the color of choice this summer.

Vehicle Washing/Cleanup

- A clean vehicle has traditionally been a source of pride and something that we believe is an important part of maintaining our image as a professional organization. This year, that will not be the case. We will use water to clean only what cannot be cleaned without its use.
- Only clean the area that requires the water to do so, this might be some bird droppings or anything that would damage the paint. Windows can be done with glass cleaner. Mirrors, headlights, signals, fireballs, and any reflective taped areas shall be cleaned with a dry rag or if necessary window cleaner. In the case of our equipment, we will be removing the material from dump beds, buckets, and tracks with a shovel and a broom whenever possible. When returning a piece of rental equipment, remove all possible mud and dirt prior to taking a hose to it. Cleaning the sweeper presents a problem, as it was designed to be washed out. It will be up to the operator to do this with as little expenditure of water as possible.

Sweeping
This is a safety issue; therefore we will continue to do the sweeping in order to keep the pavement markings visible and the shoulders safe for the traveling public. When it rains or just after rains we will want to use the sweepers to take advantage of the damp material and use less water. Please keep in mind; while we want to conserve water, we do not want to break the Department of Ecology's rules on dust.

Sign and Guidepost Cleaning
We will continue to do all of our work that has a safety impact on the traveling public. Signs and guideposts are very important and will need to be addressed. Whenever we are cleaning signs, strive to use as little water as possible. Guideposts can be wiped with damp rag then a dry one.

Herbicide Applications
All herbicide applications will be made using the minimum amount of water. We will utilize the high pressure, low volume sprayers or backpack sprayers whenever possible for our noxious weed work, to minimize the amount of water required. When using the Monroe 1600-gallon spray truck, the operator will estimate what will be needed for that day and fill the tank accordingly. If at the end of the shift there is leftover water in the large supply tank it will remain in the truck until the next application or the end of the season.

I realize these measures may take away from our productivity and won't be popular. Without water some tasks may be slower and more labor intensive. As always, I know that this group will find a way to get this done and most likely come up with even more ideas if the drought conditions continue. To show how successful we have been with this effort, our water usage will be compared to last year's consumption.

Thank-you for your cooperation in this critical effort on behalf of all the people of the state of Washington.